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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,201	10/20/2003	Kenneth A. Stewart	CS23403RL	4413
20280	7590	11/04/2005	EXAMINER	
MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343			KIM, KEVIN	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

<b>Office Action Summary</b>	<b>Application No.</b> 10/689,201	<b>Applicant(s)</b> STEWART ET AL.	
	<b>Examiner</b> Kevin Y. Kim	<b>Art Unit</b> 2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-13 and 16-26 is/are rejected.
- 7) ☒ Claim(s) 7,8,14,15,27 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                   |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6,9-13,16-26 are rejected under 35 U.S.C. 102(b) as being anticipated by

Khullar et al (US 6,400,928, submitted by applicant as part of IDS).

Claims 1,4,5,9,10,11,12,13,16,17,18,20,21,24,25.

Khullar et al disclose a modulation detection device and method, see Fig.4, comprising;

receiving a signal (64),

generating a first decision statistic based on the received signal (70(1)),

phase rotating the received signal (68(n)),

generating a second decision statistic based on the phase rotated received signal

(70(n)) and

determining a modulation type (either GMSK or 8-PSK) based on comparing the

first decision statistic with the second decision statistic (72). See col. 8, lines 59-67.

It should be noted that the limitation “generating a first decision statistic based on the received signal” does not specifically exclude a case a first decision statistic is generated on a phase rotated received signal because a received “based on” which the first decision statistic is

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generated includes both the received signal prior to a phase rotation signal and the received signal after the phase rotation.

Claims 2, 3, 22 and 23.

Khullar et al disclose correlation the received and phase rotated received signal with respective training sequence to generate correlations, i.e., "an observation matrix," which is used to generate the quality of correlation, i.e., the first and second decision statistics.

Claims 6, 19 and 26.

Khullar et al disclose generating the first decision statistic based on four bursts. See col. 8, lines 30-34. The four bursts are known to be comprise a radio link control block.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6,9,11-13,16,18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khullar et al (US 6,400,928).

Claims 1,4,5,9,11,12,13,16,18,20,21,24,25.

Khullar et al disclose a modulation detection device and method, see Fig.4, comprising;  
receiving a signal (64),

generating a first decision statistic based on the received signal (70(1)),

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phase rotating the received signal (68(n)),  
generating a second decision statistic based on the phase rotated received signal (70(n))  
and  
determining a modulation type based on comparing the first decision statistic with the  
second decision statistic (72). See col. 8, lines 59-67.

Khullar appears to be different from the claimed invention in that the patent describes phase rotating the received signal when the first decision statistic is generated whereas the claimed invention covers a case where the first decision statistic is generated directly based on the received signal, i.e., the received signal does not undergoes any phase rotation. However, Khuller further teaches that other de-rotation blocks can be included if other modulation schemes are used. See col. 8, lines 42-43. Since certain modulation schemes do not require phase rotation, a zero phase rotation block would be added, thus generating a decision statistic generated based on a received signal.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to generate a first decision statistic based on the received signal while generating a second decision statistic on a phase rotated received signal in the case that one of at least two modulation types is a type that has phase rotation.

Claims 2, 3, 22 and 23.

Khullar et al disclose correlation the received and phase rotated received signal with respective training sequence to generate correlations, i.e., "an observation matrix," which is used to generate the quality of correlation, i.e., the first and second decision statistics.

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Claims 6, 19 and 26.

Khullar et al disclose generating the first decision statistic based on four bursts. See col. 8, lines 30-34. The four bursts are known to be comprise a radio link control block.

***Allowable Subject Matter***

5. Claims 7,8,14,15,27 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

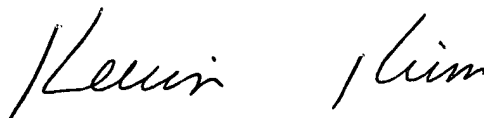
Lindoff (US 6,463,107) teaches a modulation detection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Kevin Kim". The signature is written in a cursive, flowing style.

**KEVIN KIM  
PATENT EXAMINER**